

**CARDIOVASCULAR DISEASES AND THEIR PRACTICAL
SIGNIFICANCE**

*Qarshi davlat universiteti dotsenti **Daminova Barno Esanovna**,
<https://orcid.org/0009-0001-4211-6082>, barnod@mail.ru,*

***Sanayeva Dilnura Sadriddin qizi**,
student of Karshi State University*

Annotation: *This article analyzes common cardiovascular diseases, their causes, prevention and treatment, preventive measures, and the organs in which the disease occurs, their structure and function. The article also examines methods for identifying and diagnosing circulatory system diseases based on international experience. The article discusses the function, importance, and mechanism of the cardiovascular system in the human body.*

Key words: *Heart, blood, cardiology, artery, heart chambers, hypertension, hypertensive crisis, prevention, symptoms, diagnostics.*

Аннотация. *В статье анализируются распространенные сердечно-сосудистые заболевания, их причины, профилактика и лечение, профилактические меры, а также органы, в которых возникают заболевания, их строение и функции. В статье также рассматриваются методы выявления и диагностики заболеваний системы кровообращения на основе международного опыта. В статье рассматриваются функции, значение и механизм функционирования сердечно-сосудистой системы в организме человека.*

Ключевые слова: *Сердце, кровь, кардиология, артерия, камеры сердца, гипертония, гипертонический криз, профилактика, симптом, диагностика.*

We all know that the cardiovascular system is a key component of the human body. As the philosopher Aristotle said: “The first happiness for a person is his health, and the second is beauty”. Blood carries not only oxygen, but also nutrients in the body.



The heart, like a pump, supplies the entire body with blood. Violation of the functioning of this system causes various anomalies and pathologies in the body. Among them, hypertensive crisis, hypertension, heart edema, myocardial infarction, heart failure, stroke, tachycardia, bradycardia, atherosclerosis, angina pectoris are among the most common diseases today. It is no exaggeration to say that the prevention and treatment of diseases caused by cardiovascular dysfunction is one of the main and urgent issues in medicine today. We can cite blood vessels (arteries, veins, capillaries, aorta) and the heart as examples of the organs of the circulatory system. The principle of the heart is somewhat complicated. Pulse is the resistance of the walls of blood vessels to the pressure of blood ejected from the heart. The pulse can be counted by hand. The blood contains various shaped elements, each of which performs a specific function. Heart diseases (heart diseases) are a group of pathologies of the cardiovascular system, manifested by a violation of the normal functioning of the heart. Such diseases can be caused by damage to the epicardium, pericardium, myocardium, endocardium, valvular apparatus of the heart and blood vessels. Heart diseases can occur for a long time in a latent form, without clinical manifestations. Along with various tumors, they are today one of the main causes of premature death in developed countries.

Inflammatory diseases of the heart

- Endocarditis;
- Myocarditis;
- Pericarditis.

Heart diseases can be conditionally divided into three large groups according to the focus of damage:

1. Diseases affecting the valvular apparatus of the heart. Includes various acquired and congenital heart defects.
2. Diseases affecting the blood vessels of the heart and their consequences. These include ischemic heart disease, myocardial infarction, angina pectoris, etc.
3. Diseases directly affecting the tissues of the heart membrane, including pericarditis, endocarditis, myocarditis.



The causes of such diseases include a wide range of factors, from lifestyle to hereditary defects.

Among the most common is heart valve disease. The essence of heart valve dysfunction is that they regurgitate blood or do not open sufficiently. Often, heart valve diseases are the result of infectious damage or autoimmune reactions. Interventricular and interventricular septal defects, narrowing of the valves (stenosis), patent ductus arteriosus (blood bypasses the lungs), etc. Most of these conditions can be corrected with surgical methods. The timing of surgery depends on the nature of the defect, symptoms and severity of the condition.

Electrocardiogram (electro., cardio... and gram) (ECG) - a curve in which electrical impulses generated when the heart muscle is working are recorded. E. is recorded on paper or film using an electrocardiograph. The ECG records the heart currents (action currents) that spread throughout the body with electrodes placed on various parts of the body (chest, arms and legs) and connected to the electrocardiograph. Modern medical technology allows recording an ECG using television or radio transmitters, even if the person being examined is at a considerable distance. Such methods make it possible to monitor the heart activity of athletes, astronauts, etc. during heavy physical tests.

The ECG of healthy people depends on body structure, age, etc. However, in a normal ECG, it is always possible to distinguish between waves and intervals reflecting the successive excitation of the heart muscle. In various diseases, the size, intervals and direction of the ECG waves, the duration and location of the intervals (segments) vary significantly. With the help of an ECG, various changes in heart rhythm, ischemic heart disease, the nature and stages of myocardial infarction are determined. An ECG is considered more effective than other methods in diagnosing heart diseases.

This disease is characterized by a decrease in blood flow to the heart muscle. The heart works intensively, and the lack of blood immediately affects its condition. The coronary arteries that surround the heart muscle are responsible for feeding it. Symptoms of such a disease can be shortness of breath and a heart attack. In almost 90% of cases, coronary artery disease is a consequence of damage to the walls of the



arteries - atherosclerosis. Previously, this process was thought to be associated with the natural aging of the body, but now it has become clear that even children can suffer from atherosclerosis.

Pathological changes

- Cardiac asthma;
- Heart failure;
- Myocardial hypertrophy:
- Left ventricular hypertrophy;
- Left ventricular hypertrophy;
- Right ventricular hypertrophy;
- Right ventricular hypertrophy.

Professor Li conducted research on heart diseases and modern treatment methods at the Himedi consultation center in Tashkent. Many studies have been conducted on the heart, as well as the diseases that arise through it, and these processes are still ongoing. Through these experiments, measures are being taken to treat diseases for which no treatment methods have yet been found. Many studies are also being conducted in this area in Uzbekistan. At the same time, educational activities are being carried out among the population aimed at developing medical science.

In conclusion, we can say that today we all know that the number of heart diseases is increasing day by day, therefore, in order to prevent such diseases among the population, to ensure human health, by attracting more specialists to the medical field, to put into practice modern diagnostic methods and accurate diagnosis of the disease, and to prevent it in time, it is necessary to pay special attention to the medical field, to ensure that qualified personnel gain experience abroad. We also need to organize video conferences aimed at directly educating the population about diseases related to this system and methods of preventing them, and to involve the population and organizers in this.

REFERENCES

1. Health Organization (WHO) – Genetic disorders and their global World impact, 2023.



2. O‘zbekiston Respublikasi Sog‘liqni Saqlash Vazirligi hisobotlari, 2022.
3. Watson J.D., Crick F.H.C. – Molecular Structure of Nucleic Acids: A Structure for Deoxyribose Nucleic Acid, 1953.
4. National Institute of Health (NIH) – Advances in Gene Therapy, 2022.